FARM INDEX

U.S. Department of Agriculture
May 1977

Outlook

Net farm income for '77 might slip from last year's $23 billion. Blame it on spiraling production expenses, since crop and livestock marketings should about match '76 . . . some farmers will fare better than others, especially if they grow cotton or soybeans. But wheat and cattle producers had it tough in '76 and recovery pivots on outcome of crops now in the ground or about to be planted . . . Drought headlines no more? Except in Far West, a pretty wet spring shaping up. Weather abroad mostly good, too. Might as well crank some whopper harvests into your range of likely outcomes over coming months . . . And figure on those food grain export blahs lasting maybe another season.

Suppose crop production in '77 pans out no better or worse than the past 2 years, and livestock numbers decline, as expected. Then, the livestock business is apt to be better than the crop side . . . Meanwhile, appreciate land appreciation. National average value per acre rose $26 from November to February, to unprecedented $456.

Cattle feeding out of the red? Long drought for fed cattle prices may end sooner than you think . . . maybe this spring. With help of rain to promote pasture growth, slaughter of cows and other nonfeds might slump. That should trigger upturn in fed cattle prices.

Better milk scene. That boost in support prices will help. How much is hard to tell, but it's for sure farm milk prices would have sunk without the recent action. Should encourage farmers to feed more concentrates, get more milk per cow. Milk output this year might rise 2 or 3 percent nationally, given normal feed crops. Might have gone up only 1 percent, otherwise.

Hog expansion about over? Balloon of expanding hog numbers won't be pricked till spring of '78, unless corn busts. Price outlook: mid-$30's per cwt. in April-June . . . around $39 in July-September . . . topping last year's average by fall. Producers don't expect much profit this spring, though they should be able to at least cover feed and pig costs.

So-so poultry. Broilers might bring around 40 cents per pound for third quarter, little change from '76 period due to bigger supplies plus keen competition from plentiful red meats. Turkey prices should do a little better in second half compared with a year ago, if growers' profit margins continue slim and hatchery orders decline. Egg producers can expect usual price weakness in the spring, then some pickup, but odds are second half prices won't match '76 period. No relief for ration costs . . . soybean meal is out of sight.

Soybeans feverish again. Use wasn't dropping even when beans soared above $9 per bushel in mid-April. So beans will be scarce til the new crop replenishes the bin. Embargo came last time when soybeans reached $13. Supplies will stay skimpy, even if it's a good upcoming crop of 1.6 billion bushels. Price ratio of soybeans to corn is running well over 3 to 1 in beans' favor, pointing to big soybean plantings.

Vegetable roller coaster. Florida freeze sent fresh market prices through the roof in January and February, but growers should brace for falling prices in April and May. When bad weather delays harvest, tendency is for later harvesting dates to bunch up, causing temporary glut on the market.

INCORRECT ISSUE NUMBER
SHOULD READ ISSUE 5

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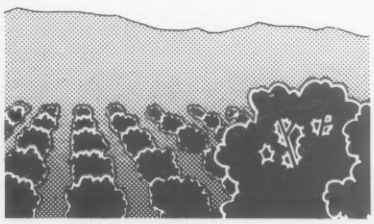

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Readers are invited to write for the research materials on which we base our articles. Address queries to The Farm Index, Rm. 1664, Economic Research Service, U.S. Department of Agriculture, Wash., D.C. 20250. Please cite article titles when ordering.

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Dear Farm Index Readers:

Editor's note: *Farm Index* recently completed a sample survey of subscribers to get a better understanding of reader needs and preferences. The survey results will be used in planning and editorial decisionmaking to help tailor the magazine to serve its readers.

Dear Readers:

We greatly appreciate the cooperation from you who were asked to respond to our nationwide readership survey. The respondents, from a random selection of 1,000, have enabled us to examine *Farm Index* from a knowledgeable viewpoint, which should improve service to all readers.

The adjoining tables of responses to survey questions are largely self-explanatory, so we won't dwell on them at length. Instead, we will briefly examine the overall interpretation of the results, and the possible consequences.

Key questions. Our analysis hinged on these five questions that guided the project from its beginning. We had hoped to determine:

1. Who reads *Farm Index*?
2. What information is sought?
3. In what form?
4. How have these needs been met?
5. How can *Farm Index* meet them better?

Who reads Farm Index? The typical *Farm Index* reader is highly educated, with 86 percent attaining 16 years or more of schooling and most indicating professional-styled occupations.

What information do they seek? A great diversity of interest was indicated. In fact, many respondents specifically mentioned their desire for broad, general coverage.

Trends noted. Most readers seemed to prefer stories that offer information that can be applied directly to domestic production and profitmaking, such as material about agricultural commodities, inputs, and finance. Yet, sizable numbers were interested in less business-oriented subjects such as consumer information and rural development.

In what manner do they want this information? The overwhelming response indicated that readers like the way *Farm Index* does it now.

In all four contents components, (Outlook column, features, Recent Publications, and Economic Trends), most readers always or frequently peruse the items. In other words, no general area of coverage is lacking in appeal.

Despite the high level of education among readers, 95 percent indicated satisfaction with the present writing style, which is designed to appeal to nonspecialists.

Popular design. The reaction to the magazine's visual presentation was also favorable, with 93 percent finding it attractive. However, readers seem to place a low value on packaging, and a high value on contents. Although the sentiment ran almost 10 to 1 in favor of the magazine's new format since August, 45 percent had no preference.

Still another insight to reader preferences for presentation style is found by examining reasons for subscribing. Readers appear to prefer indepth coverage rather than summary coverage of material, since only 28 percent subscribe primarily to receive a summary of agricultural economics information.

How has Farm Index *performed in meeting those needs?* Responses to the key question asking for an overall rating "according to its usefulness to you" were very positive, with two-thirds of the respondents rating *Farm Index* as "excellent" or "above average." Less than 3 percent found the magazine to be below average or poor. Written comments were generally very positive in endorsing *Farm Index's* current performance.

Comparisons. Other questions provided more specific insight. Using the net comparison of positive and negative responses to the 10 sample story topics, six previous issues of the magazine were analyzed to determine whether existing balance of coverage carried reflects overall reader interest.

The analysis found 54 instances in which the top six subject preferences were covered, and only 19 instances in which the four less-preferred topics

received coverage. Many stories, of course, include sizable blocks of material from several areas of interest.

In short, it appears that *Farm Index* has performed as one respondent noted: "You may be shooting in the dark (prior to the survey), but you are right on target for my needs."

How can Farm Index *improve that performance?* Despite the generally widespread satisfaction with *Farm Index,* the survey does strongly indicate areas in which the magazine can improve:

- More emphasis on business-oriented material is indicated, although a reasonable amount of attention must be given to consumer information, foreign agriculture, and rural development.
- Provide more indepth coverage tc feature material. Long-range assignments are already underway to accomplish this on major topics.

In conclusion, we'll use the survey to keep improving *Farm Index* as a channel of information from ERS researchers to you, our readers.

Furthermore, we welcome any additional advice or comments that you may have to offer.

The *Farm Index* Staff

Readership Characteristics and Habits

My career area is:

	(percent)
Farming	4.5
Ranching	1.1
College Faculty	14.7
Student	1.5
Government Economist	12.9
Private Economist	4.5
Agriculture Business	18.1
Other USDA Employee	10.7
Other	31.9

My highest level of education completed is:

	(percent)
At least 16 years	86.2
More than 12 years	94.5

Overall, how do you rate *Farm Index*, according to its benefits to you?

	(percent)
1. Excellent	17.8
2. Above average	47.9
3. Average	31.4
4. Below average	2.6
5. Poor	0.2

I find the present writing style:

	(percent)
1. Difficult to read	1.5
2. Readable	95.0
3. Too simplistic	3.5

I subscribe to *Farm Index* because:

1. It provides valuable information that is useful in my profession. (57.9%)
2. It provides a useful summary of agricultural economics information. (28.3%)
3. It occasionally carries an article that interests me. (8.4%)
4. I simply enjoy reading the magazine. (2.1%)
5. Other. (3.3%)

I find the visual presentation:

	(percent)
1. Too dull and boring	3.6
2. Attractive	93.2
3. Too busy, confusing	3.2

***Farm Index* recently underwent a change in visual format. Do you prefer:**

	(percent)
1. New format (present issue)	49.6
2. Old format (before August)	5.6
3. No preference	44.8

Which of these story topics would you be most and least interested in?

Most Interesting

Topic	Responses
Commodity Economics	172
Business & Finance	90
Agricultural Policy	72
Outlook & Projections	61
Consumer Information	60
Agricultural Inputs	54
Rural Development	49
Natural Resources	48
Trends in Agriculture	40
Foreign Agriculture	28

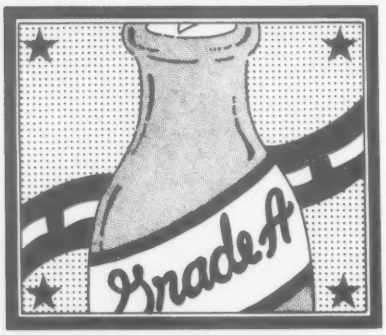
Least Interesting

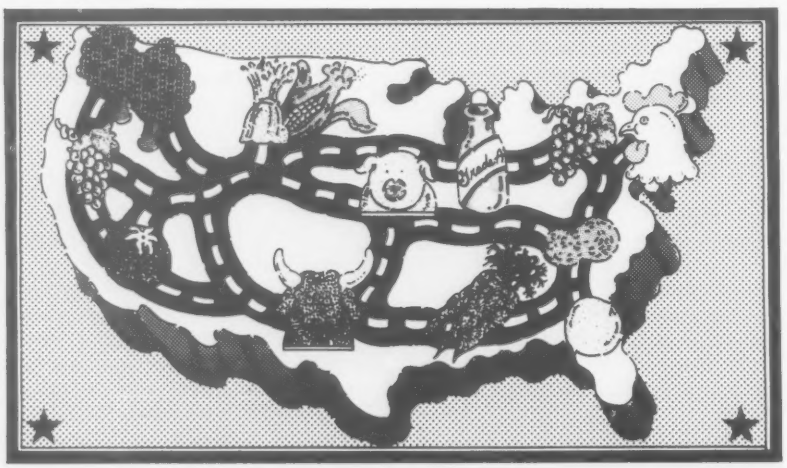
Topic	Responses
Rural Development	157
Consumer Information	122
Foreign Agriculture	83
Natural Resources	61
Business & Finance	57
Outlook & Projections	46
Agricultural Inputs	42
Trends in Agriculture	40
Commodity Economics	34
Agricultural Policy	28

Listed below are contents items. Please indicate how often you read each item. (Numbers are percentages.)

Item	Always	Frequently	Rarely	Never
1. Outlook Column	52.5	37.9	8.5	1.1
2. Feature Articles	27.8	65.2	6.7	0.3
3. Recent Publications	37.3	40.1	21.3	1.3
4. Economic Trends	45.5	44.0	9.1	1.4

A Statistical Journey Across the Agricultural U.S.





The roadmap for an economic tour of American agriculture is cleverly disguised as a statistical bulletin entitled "Farm Income Statistics."

While the data-laden report and its supplement may seem like dreary reading to most people, it can lead to a fascinating journey—once you find the trail of "firsthand dollars."

First hands—a rancher's expression meaning the primary owner and seller—are the people who provide America's agricultural abundance. By tracing dollars to the first hands, the statistical bulletin becomes a vivid roadmap.

The trail of those dollars leads everywhere in the United States, to all kinds of farm owners raising many kinds of products. Thus, the firsthand owner may be a rancher corraling calves for sale to an Iowa cattle fattener. She may be an Ohio farmwife plucking radishes for sale at her roadside stand. And it may be a sugar refining corporation, cutting fields of cane on the slopes of a Hawaiian island.

With a geographic spread as broad as the 50 States, agriculture generates a surprising amount of local business. The firsthand dollars farmers received last year for the sale of crop and livestock products totaled $1 billion or more in all but 17 States.

California leads. The foremost of these last year was California, itself a model of farming variety. California farmers took in almost $8½ billion in cash receipts. Sales of cattle, calves, and milk netted over $2 billion of this, but most of the rest came from a cornucopia of crops. The most important crops: tomatoes, cotton, and grapes.

The scope of California's output is illustrated by a national comparison of the 25 commodities which gave farmers the most cash. California ranked first through fifth among States in the sales value of 15 of them.

While California has enjoyed its dollar dominance year after year, it has encountered tough competition from the runner-up.

Deep in the midwestern heartlands, Iowa farmers ranked second in firsthand dollars received, earning over $6 billion in farm sales in 1975. In contrast to California, much of this income came from livestock sales of hogs, cattle and calves, and dairy products. Although trailing Texas in sales of cattle and calves, Iowa farms lead the Nation in sales of total livestock products.

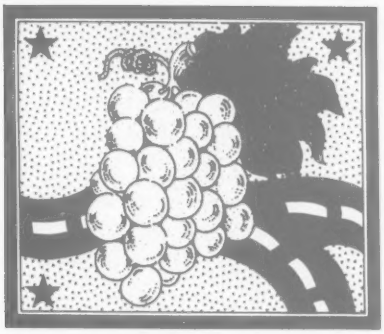
Iowa surges toward lead. California farmers may relinquish their lead position in firsthand dollars earned in 1976. By midyear, a check of monthly cash receipts showed Iowa's to be greater. But experts aren't calling this one, since extensive farm sales in both States take place late in the year.

On the regional scene in 1975, in the Midwest, Iowa battled it out with Illinois for the most money earned for corn, hogs, and soybeans, leaving the growers in Kansas and North Dakota at a neck-and-neck run for wheat receipts.

Down South, Georgia and Alabama led in cash receipts from peanuts.

Sun-ripened oranges brought Florida more sunshine with higher receipts than California competition, but California's tomato earnings topped Florida's by a strong lead.

Dubious distinction. Rhode Island and Alaska, the smallest and largest of the 50 States, compete for a dubious distinction. They share the



spots as the lowest earners of cash receipts.

Although some States obviously enjoy vast natural advantages over others in the pursuit of firsthand dollars, the variety of farm product forms is so great, and the climate and nature of the Nation's land is so varied, that even the "have-not" States have something going for them.

The trail of firsthand dollars leads to many seasons, as well as many locales. In fact, American agriculture never shuts down. This means that farmers somewhere are selling their products every day of the year.

Climate makes a difference. Crop producers take full advantage of local climatic differences to extend the growing season. For example, while most potatoes are harvested up North in the fall, some potatoes can be harvested in States farther south during winter, spring, and summer.

Livestock producers, meanwhile, with the help of animal husbandry experts have eliminated much of the traditional "flush" and "dry" season dips in the production of milk, meat, poultry, and eggs.

With diversity of soils, climates, and seasons come a diversity of farm products—an array that staggers the imagination.

This great agricultural diversity falls into two kinds of products: crops and livestock. Each accounted for roughly half of the $87 billion in cash receipts that farmers earned last year.

Cash receipts from livestock and livestock products are concentrated in a relatively few different commodities. Thus their value easily surmounts the sales value of most individual crops.

Cash on the hoof. In fact, cash received from the sale of cattle and calves "out of first hands" earned $17 billion, much more than any other commodity sold in 1975.

Dairy products came in a distant second, but still earned almost $10 billion. Because of milk's perishability, it is produced throughout the country, and provides an important source of farm income nearly everywhere.

Just behind milk, sales of hogs and pigs valued at nearly $8 billion were the third largest source of livestock receipts for American farmers.

The chicken came slightly before the egg last year, by generating a few more dollars in sales. All told, poultry products earned their producers over $6 billion.

Several lesser livestock commodities keep us warm as well as nourished: wool from sheep, mohair from goats, and fur pelts from mink.

Even the busy bee, tiniest of livestock species, earned its keepers over $100 million for honey and beeswax.

Minor crops contribute. Detailing the dollars earned by crop producers last year takes several pages of the statistician's ledgerbook, plus several appended footnotes of crops too numerous to count. Even minor crops add to farm sales:

Raising the mint for your peppermint pattie was a $65 million business last year; mushroom's worth popped up to $170 million. Growing crunchy popcorn proved to be a $44 million profession for its producers, and we paid the growers of garlic some $14 million to spice our cooking.

Of course, more prominent crops added considerably more to the livelihood of farmers. Typically, these crops both enjoy large booming foreign sales and large domestic markets.

Corn is top cash crop. Thus corn was the leading earner of cash receipts—at $9 billion—and wheat and soybeans ran a close race for second place at around $7 billion each.

These three crops are central both as the basis of human foods and as livestock feeds.

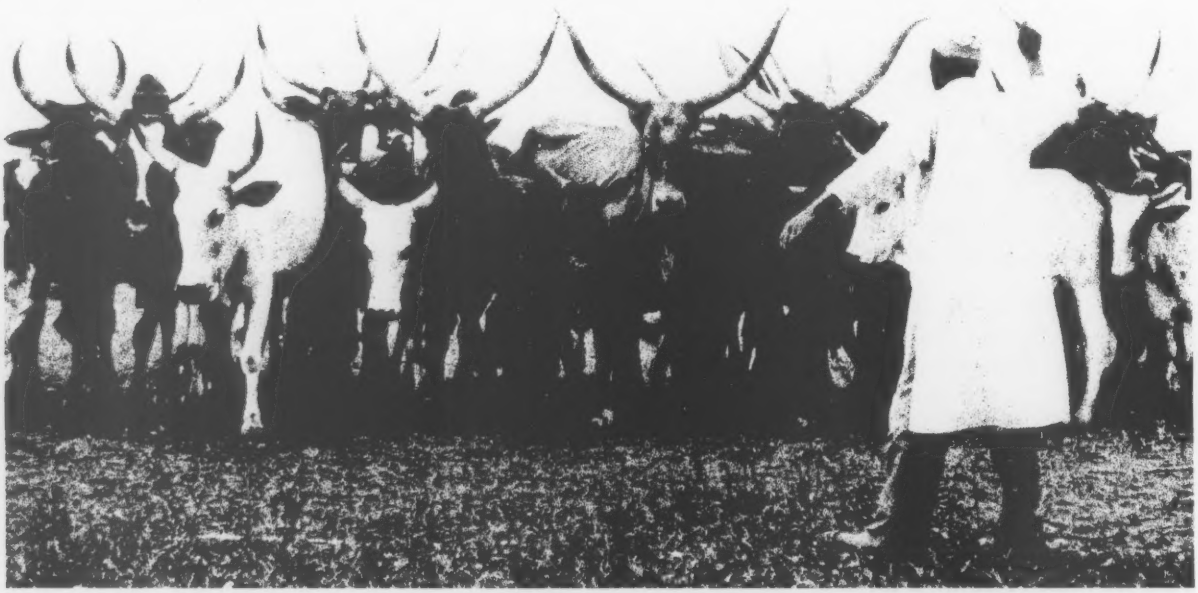
The next two commodities on the list, however, have no nutritional importance. Still, farmers' tobacco sales added up to over $2 billion from deliveries to the domestic tobacco products industry and from sizeable leaf exports for world consumption. Cash receipts from cotton lint also reached into the $2 billion range.

Crops worth between $1-$2 billion to farmers in 1975 were divided between two food crops, rice and potatoes, and two feed crops, hay and sorghum.

The record of our agricultural harvest in 1975 was rounded out by dozens of food, fiber, and industrial crops. Collectively, they offer Americans the world's most generous and varied diet.

[Based on *Farm Income Statistics*, Stat. Bul. 577, July 1976, and *State Farm Income Statistics*, Supplement to Stat. Bul. 577, by National Economic Analysis Division.]

A Fateful Mate for the Tsetse Fly



The tsetse fly, which carries the fatal sleeping sickness to almost every country in sub-Saharan Africa, may soon make a fateful match.

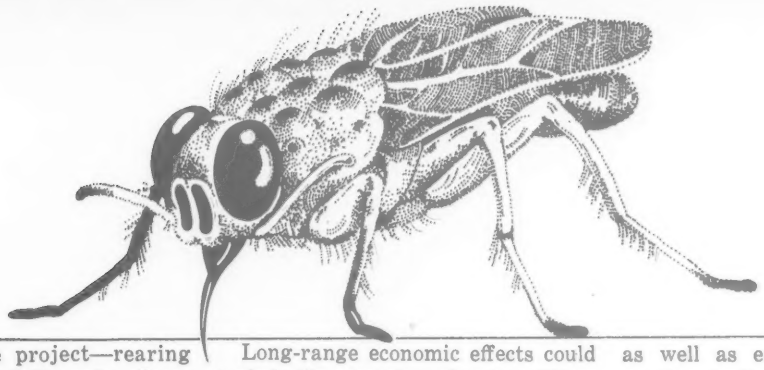
Thousands of sterilized male flies will be released in 1977 in an ERS-coordinated research program designed to breed the tsetse to extinction in a test area in Tanzania. Eradication of the tsetse fly in Africa could open 3 billion acres to cattle raising, while improving human health conditions.

The tsetse flies are only carriers of the real enemies, parasites called trypanosomes, which cause sleeping sickness in both humans and animals.

The goal of the research project in Tanga, Tanzania, is to find a way to eradicate the tsetse. It is sponsored by the U.S. Agency for International Development, staffed by USDA's Agricultural Research Service (ARS), and coordinated by ERS's Foreign Development Division.

Sterile males. The project is adapting the sterile male technique that has been so successful in eradicating the screwworm in the southeastern United States.

Male flies are sterilized with a radiation process, then released to mate with normal females. No offspring result, and the tsetse population shrinks with each generation, until it is eventually eliminated. If the method proves successful in Africa, it could open up vast areas there to cattle raising and other productive uses.



Phase I of the project—rearing many thousands of flies—has been completed. This has not been easy, because the flies take 45 days to mature, they breed only one at a time, and they feed on blood, provided by goats and rabbits at Tanga. Phase II, a field trial release on a 15,000-head cattle ranch near Tanga, will begin in 1977, and should tell whether the sterile male technique can be successful in actual situations.

FDD role. The Foreign Development Division coordinates all international technical assistance and training programs for USDA. It has active programs in Africa, Latin America, Asia, and the Middle East. These international development projects draw on the economic and rural development expertise right in ERS, and also call on the other 16 program agencies in the department for every conceivable type of agricultural proficiency.

Technical assistance efforts, such as the one in Tanga, may include resident or short-term assignments overseas advising foreign governments, private firms, farmer organizations, and international organizations.

Economic impact. Kenneth C. Laurent, an FDD economist who recently visited the Tanga project, described the potential economic impacts of controlling tsetse:

"Much of the 4½ million square miles (3 billion acres) of Africa affected by tsetse is semi-arid pasture land, which could be used for raising cattle. There is also plowing land there, some of which might be farmed."

Long-range economic effects could include "increased production of livestock, and perhaps of food crops. Also, improved health of the human population would make them more productive. The reduced cost of maintaining animals would be of great benefit to farmers, since it is expensive to raise cattle when they have to be treated to prevent trypanosomiasis."

Helping people. Opening up areas of Tanzania and other countries to cattle raising would upgrade the diets of people in these areas and contribute to economic growth.

Kenya, for example, which is infested by tsetse, is already a net exporter of beef. If countries in this area could expand beef production and export, they could increase their standard of living and foreign exchange.

Controlling tsetse would not only open up the area for cattle raising and other economic activities, but would also improve human health, since sleeping sickness is a major health problem in East and West Africa.

Environmental problems. Although the successful eradication program could solve many problems, not everyone is optimistic about it. Some critics point out that it could cause environmental problems. For example, the tsetse have in effect protected wild animals, such as zebra and antelope species, from being destroyed by humans. If tsetse are wiped out, farmers and hunters will move in, and cattle, crops, and people will compete for territory with the wild animals.

Wildlife is important economically as well as ecologically. In Kenya, tourism is the second largest source of foreign exchange, and the tourist industry there is based on wildlife. Furthermore, wild species could be an important source of protein, if managed properly.

Insecticides. Other critics are worried that chemical insecticides, which must be used in conjunction with the sterile male technique, may have harmful effects on the environment. And others warn that once the tsetse control technique is perfected, wise land use planning must accompany its introduction, in order to prevent overgrazing.

If the field trial in Tanga proves successful, the technique may be adopted in other areas of Tanzania and elsewhere in Africa. The decision on whether and where to use it will be made on economic as well as scientific grounds.

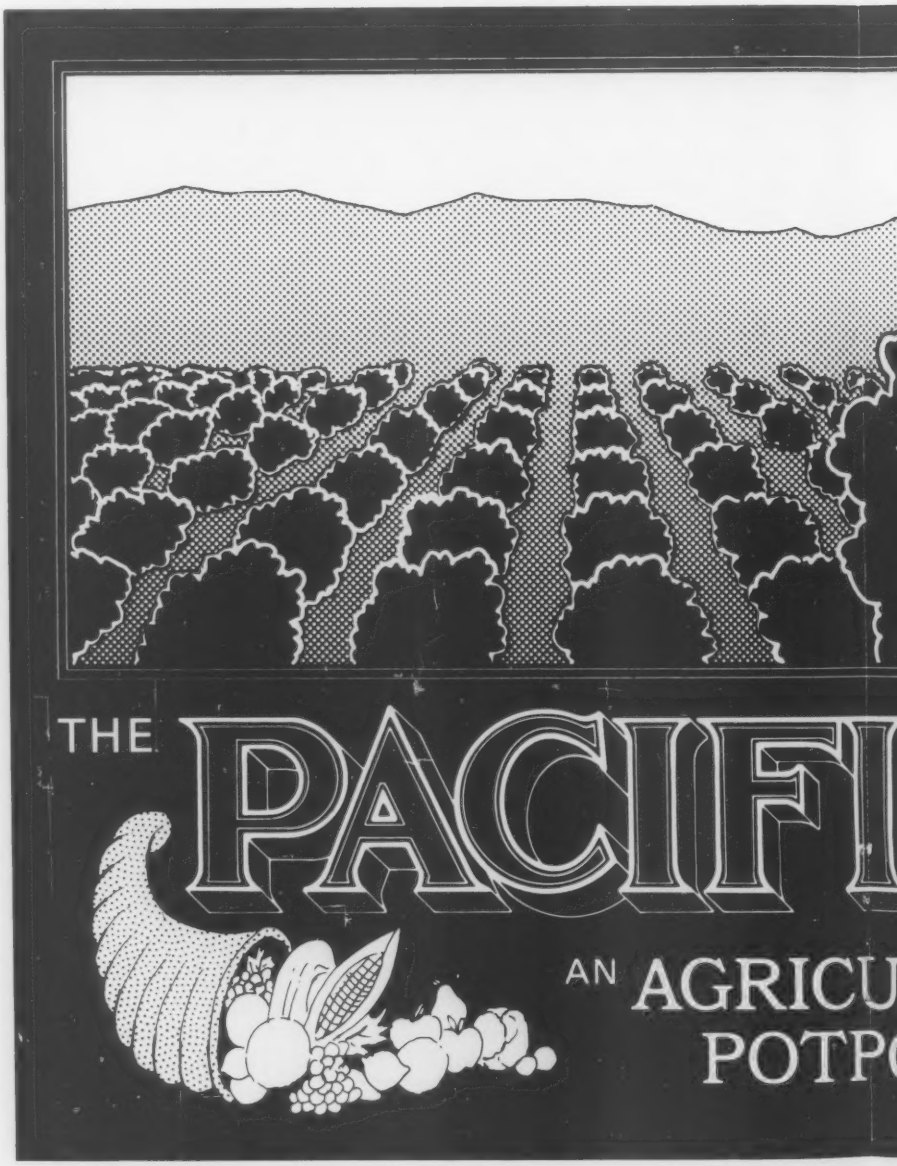
According to David Dame, ARS entomologist and technical advisor for the Tanga project, "If the technique is good and economical, there will be areas where it will be used to supplement existing techniques. We are looking for costs that are competitive with those of alternative methods.

"The goal is to find the best cost efficiency, the cheaper way, and the one that will be environmentally acceptable. The sterile technique can be more economical than preventive drugs in protecting cattle. And when the sterile technique is used in combination with insecticides, it requires less insecticide, and should therefore be more economical."

[Based on material compiled by Deborah T. Smith, ERS Division of Information.]

The Pacific States: An Agricultural Potpourri

This is the second in a series of articles on regional agriculture.

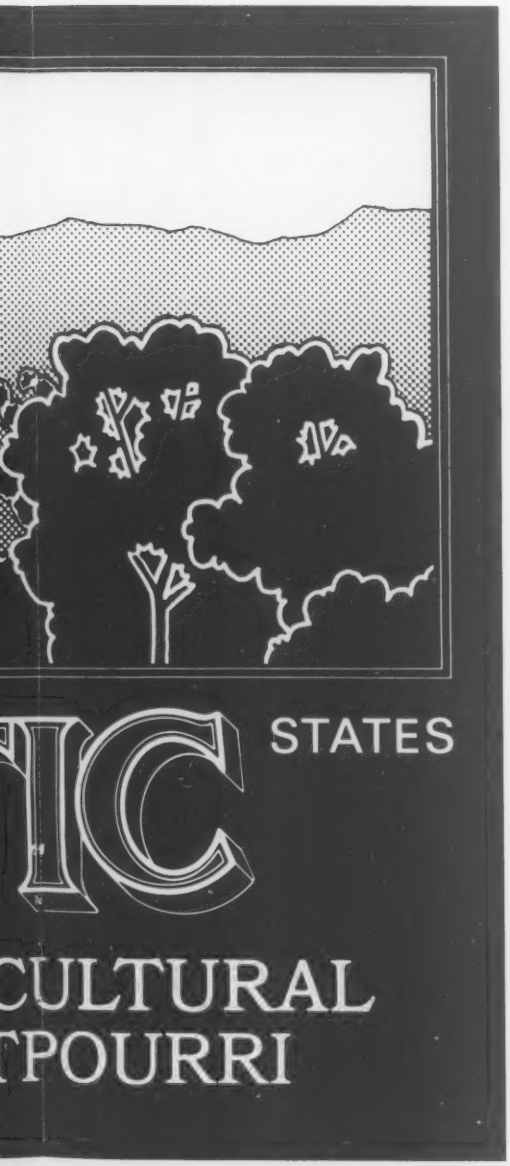


Early Spanish explorers who first glimpsed the coastlines of the three Pacific States could not have imagined the agricultural bonanza the territory would turn out to be.

With 9 percent of the total U.S. land area and 6 percent of the farms, the Pacific States—California, Oregon, and Washington—produced about 13 percent of the country's agricultural products in 1974. This included a sizable portion of the fresh and processed fruit and vegetable crops, as well as an array of other important commodities. California alone provides about a fourth of the Nation's food each year.

Drought-stricken area. The three-State area, with the exception of southern California, is in the midst of one of the worst droughts on record. During the first four months of their rainy season—October through April—rainfall was only 20-40 percent of normal. And unless unusual out-of-season rains occur, the area will face a dry summer with adverse impacts on crop and livestock production.

The Bureau of Reclamation has ordered water cutbacks to agricultural users in major parts of California, and most farmers can be expected to allocate the available water first to



such high value crops as fresh vegetables, with less going to field crops. Yields may also be off for nuts, fruits, rice, and some canning vegetables, such as tomatoes. However, the overall effects of the drought in the State will be moderate—thanks to bumper crops in southern California and to the availability of well water in the Central Coastal area, an important vegetable district.

Water problems. Water—or rather the lack of it—has always been an important issue in the Pacific States, which accounts for nearly a third of the Nation's irrigated farms and over a fourth of the irrigated acres.

Irrigation, combined with a favorable climate, enables the region to produce a staggering variety of commodities—over 250 commercial crop and livestock products in California and nearly a hundred in Oregon and Washington. Leading cash crops are field and miscellaneous (rice, cotton, hay, potatoes, sugar beets, etc.), fruit and nuts, commercial vegetables, and seed crops.

In 1975, Pacific States' farmers netted over $3 billion in farm income —about 14 percent of the $22.7 billion that all farmers earned that year.

Agricultural kingpin. California is the kingpin of the Pacific States' agriculture. In fact, based on the value of farm production, the Golden State is the Nation's number one farm State. In 1975, for example, California's cash receipts from farm marketings totaled nearly $8.5 billion —about 20 percent more than that of its nearest rival, Iowa.

That same year, on the basis of value marketed, California ranked first in 8 of the 25 leading commodities—eggs, cotton lint, greenhouse and nursery, hay, tomatoes, sugar beets, barley, and grapes. In addition, the State led the Nation in a large number of specialty crops, such as almonds, apricots, artichokes, broccoli, celery, cauliflower, lettuce, carrots, spinach, dates, figs, nectarines, olives, persimmons, pomegranates, and walnuts.

Top 10 crops. Over 50 percent of California's cash receipts from farm marketings in 1975 were derived from its top 10 crop and livestock commodities: cattle and calves, milk and cream, cotton (lint and seed), grapes, hay, processing tomatoes, eggs, nursery products, rice, and lettuce.

The Golden State's agriculture is considered one of the most diversified in the world, with no one crop dominating the State's farm economy —most of its 250 crop and livestock commodities individually account for less than 2 percent of the total cash receipts. Every major crop, with the exception of tobacco and soybeans, produced anywhere in the U.S. is grown in the State.

Irrigation is the key to California's great agricultural wealth, since much of the State's most productive farmland receives only 15 inches or less of rain a year.

Most farms irrigated. Based on the latest Census of Agriculture, about a third of the State's vast 100 million acres was in farmland in 1974; nearly a fourth of the farmland was irrigated, including almost two-thirds of the farms. Of the 8.2 million acres

of harvested cropland, more than 90 percent was irrigated.

Introduced in Spanish mission days, irrigation has expanded from about 60,000 acres in 1870 to 7.5 million in 1974. The total is expected to reach 9.1 million by 1980.

Modern California agriculture requires substantial investments in irrigation systems, as well as in land, buildings, fences, trees, vines, and machinery. According to census figures, the average California farm in 1974 had 455 acres valued at slightly more than $300,000 or $669 per acre. In accordance with a national trend, the number of farms in the State has decreased since 1935, while the average size has more than doubled.

Mushrooming population. Since World War II, land has been a major capital investment for California farmers, due to the State's swelling population, which has more than tripled since 1940. Increasing urbanization has reduced the State's cultivatable or cultivated land at a rate of about one-sixth acre for each new resident and 26 acres for each mile of new highway.

In Los Angeles County alone, fruit and nut acreage decreased 40,000 acres between 1949 and 1956. Citrus and walnut production, which once flourished in southern California, has shifted to the San Joaquin Valley (which sprawls from south of Sacramento to down past Bakersfield)—the new heart of the State's agriculture.

Lost farmland. The University of California's Cooperative Extension estimates that from now until the year 2000, approximately 65,000 acres of prime agricultural land will be lost each year to make room for the State's ever — increasing population which is expected to reach nearly 40 million people by that year, up from less than 22 million in 1975. This land will have to be replaced by new land not previously cultivated.

In addition to capital investments in irrigation systems and land, California farmers must also shell out a good deal of money for hired labor, since nearly 80 percent of the State's farm labor is hired—compared with only 30 percent for the U.S.

Hired labor costs. Because of the State's high wage rates (in 1974 they were over 20 percent above the national average) and the heavy use of hired labor, cash costs for hired labor in 1974 (based on census figures) were 17 percent of the total cost of agricultural production. This compares with the national average of 8 percent.

California's northern neighbor—Oregon—is not so heavily dependent on hired labor, since it produces less than half the commodities of the Golden State. According to the last census, Oregon spent about 12 percent of its farm production expenses on hired labor in 1974—still more than the national average.

Diversified agriculture. But that's not to say that the Beaver State's agriculture is not diversified. Far from it. Oregon produces a wide variety of products, including such specialty items as peppermint, filberts, cranberries, Christmas trees, flower seeds, cut flowers, holly, and greenhouse products.

In 1975, Oregon ranked among the top 10 States for cash receipts for 3 of the 25 leading commodities (based on value of farm marketings)—potatoes, fifth place; forest products, sixth; and barley, ninth.

That same year, the State's 10 leading commodities accounted for almost 70 percent of the slightly more than $1 billion cash receipts from farm marketings. Wheat was the number one cash crop, followed by cattle and calves, dairy products, potatoes, hay, peppermint, ryegrass seed, greenhouse products, sweet corn, and pears.

Oregon's irrigation. As in California, irrigation has helped boost the productivity of Oregon's farmland. Large irrigation projects have reclaimed land which was previously unsuited for agricultural production. Based on the 1974 census, more than 40 percent of the State's farms were irrigated—about 1.6 million acres.

Close to a third of the Beaver State's approximately 62 million acres was in farmland in 1974. The average farm was 609 acres—more than 30 percent larger than the national average of 417 acres—valued at about $157,000, or $258 per acre. Unlike the trend for the Nation as a whole, the number of Oregon's farms increased slightly from the 1969 census.

More than apples. The third Pacific State—Washington—is probably best known for its apples (it is the country's leading producer), although like its two sister States, Washington boasts a highly diversified agriculture.

In 1975, for example, the Evergreen State was among the top 10 States for cash receipts for 9 of the 25 leading commodities (based on the value marketed). These included ap-

Leading Cash Crops for 1975

Washington

wheat
dairy products
apples
potatoes
cattle & calves

Oregon

wheat
cattle & calves
dairy products
potatoes
hay

California

cattle & calves
dairy products
cotton (lint & seed)
grapes
hay

ples and forest products, first place; potatoes, second; hay and grapes, third; wheat and sugar beets, fifth; barley, sixth; and greenhouse and nursery, ninth. Washington led the Nation in the production of sweet cherries, hops, and dry edible peas.

Leading cash crops. Although apples may be the State's best-known crop, they aren't the leading cash crop. In 1975, wheat took that honor, followed by milk, apples, potatoes, cattle and calves, forest products, hay, sugar beets, greenhouse and nursery, and eggs. These top 10 commodities made up nearly 80 percent of Washington's cash receipts from marketing farm products, which totaled almost $1.9 billion.

The Evergreen State is the most important producer of western white wheat, which is grown primarily in Washington, Oregon, and northern Idaho, although California, Montana, and Utah also grow small amounts.

White wheat markets. Despite the fact that white wheat is produced inland, the principal markets are the seaboard cities of Seattle, Tacoma, and Portland—areas of large flour mills and export houses.

Like the other two Pacific States, Washington's agriculture has been enlarged by irrigation. According to the 1974 census, 41 percent of the State's farms were irrigated, almost 1.3 million acres.

The Columbia Basin project has already brought thousands of acres of once barren wasteland into bountiful crop production, including row and forage crops, small grains, fruit, potatoes, and some vegetables. Sugar beets, tried but virtually abandoned early in the 20th century, became a leading crop, thanks to irrigation.

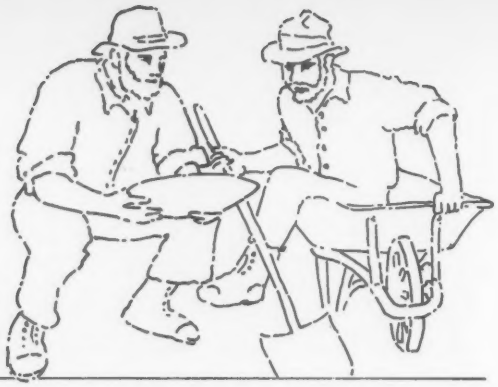
Large farms. The Evergreen State's farms are large compared to the national average—513 acres, according to the latest census, valued at nearly $184,000 or $358 per acre. Farmland accounted for almost 40 percent of the State's approximately 43 million acres in 1974. Following the national trend, the number of farms in the State decreased from the 1969 census.

According to an ERS economist at Washington State University, soil erosion in the eastern part of the State is one of the biggest problems these Washington farmers may have to face in the next 5-10 years. The Palouse area, known for its wheat, has steep-sided hills which encourage topsoil runoff. This, in turn, results in the loss of organic matter from the soil, an increase in the speed of future erosion, and the necessity of using more fertilizers.

Agricultural trends. Agriculture will continue to play an important role in the Pacific States' economy, with west coast farmers following the major trends of the Nation. Farm numbers will continue to decline, while farm sizes expand. Growing productivity and larger, more efficient farms will result in a larger share of total agricultural activity being carried on by a smaller portion of the farms.

Increasing urbanization and industrialization, the organization of farm labor, further mechanization and specialization, production and technological advances, shifting markets, and—perhaps most importantly—the expansion of irrigation and water resources, will all impact on agriculture in the Pacific States.

[Based on special material from Thomas Frey, Natural Resource Economics Division; Donald Durost, National Economic Analysis Division; Charles Porter and Jules Powell, Washington, D.C.; Stanley Johnson, University of California; Jack Trierweiler, Oregon State University; and Ron Mittelhammer, Washington State University, all with Commodity Economics Division.]



Gold and West Coast Farming

The discovery of gold at John Sutter's mill in 1848 did more than make California the most sought after spot in the Union. It changed the face of agriculture throughout the whole Pacific States as well.

For one thing, many California farmers left their land in the mad scramble to strike it rich. Joining them were soldiers and sailors, who deserted by the hundreds; merchants, clerks, lawyers, judges, criminals, trappers, preachers, schoolteachers, and just about anyone else who could hustle to the foothills. Established settlements throughout the State were deserted; homes and stores abandoned.

Although the average production in the California gold fields was barely half an ounce per man per day, some 2.5 million ounces passed through buyers' and dealers' hands in one 12-month period.

Gold fever spread across the Nation—and beyond. It's been estimated that 80,000 men reached California by 1849, at least half coming overland. Many traveled the 2,000-mile Oregon Trail, one of the most famous emigrant routes in U.S. history. In the summer of 1850, some 50,000 people crowded through the Trail's south pass, almost all of them on their way to the California gold fields. Heavy traffic continued for years afterward.

The thousands of miners pouring into the new State put a strain on the existing agriculture, and Oregon was called upon to help. The northern territory was more than willing to aid California and profited greatly from the gold rush, which provided a market for its agricultural produce, brought its economy out of the doldrums, and fed much-needed capital into the territory.

Even before the gold rush, Oregon had exported wheat to California. In 1844, for example, Oregon produced 100,000 bushels for exportation, with much of that going to California.

The average price of a bushel of wheat during the 1840's was about 62 cents. During the gold rush, it jumped as high as $6 in California, and at one time there were 50 ships in the Columbia River waiting to load wheat to meet that abnormal demand. Oregon's tree fruits, grains, and vegetables were also exported to California, where they, too, sold for outrageous prices.

Oregon's agriculture achieved added impetus when prospectors from California discovered gold in southern Oregon, northern Washington, and British Columbia in the mid-1850's. Demands from the mines made Oregon—and especially its chief city, Portland—the supply center for the entire area.

The newly created Washington Territory also benefited from the gold discoveries. The miners who flooded the area were an excellent market for local cattle, which thrived on the native bunchgrass. Even when the early mining boom subsided, cattle raising continued to be an important agricultural industry.

Commodity Profile

Ballooning Wheat and Skydiving Prices

American grain bins are bulging after large worldwide production last year shrank foreign demand for U.S. wheat.

Crops in Canada, the U.S., the U.S.S.R., India, and the Southern Hemisphere — notably Argentina, Brazil, and South Africa — set or nearly set production records for the 1976/77 season. The result has been lower U.S. farm prices for wheat and the largest wheat stocks since the early 1960's.

U.S. production for 1976 was a record 2.1 billion bushels, of which 1.6 billion was winter wheat. Based on December 1 conditions, 1977 winter wheat production was estimated at 8 percent below 1976 levels.

Prices shrink. Last year's huge U.S. wheat production and large crops elsewhere boosted the world's production 16 percent over year-earlier totals. With competing exporting and importing nations harvesting large wheat crops, wheat prices fell.

Among larger producers, record or near-record crops were harvested:

- Canada's production set a record of 23.5 million short tons in 1976/77, 37 percent over poor year-earlier output, and 4 percent above the previous record set in 1966.
- The largest single producer and consumer of wheat in normal years, the U.S.S.R. harvested 107 million tons, up 47 percent over 1975's crop.
- The European wheat crop (Eastern and Western combined) managed to escape the disastrous drought that affected most other crops on the continent. European farmers reaped 94 million short tons, up 11 percent over the previous year, but not a record.

The need to export. These large world crops sliced into U.S. exports. Reduced exports can have a profound effect on the U.S. wheat economy. At current production levels, about 60 percent or more of the output must be exported to absorb the U.S. crop.

Over the past decade, exports ranged from a low of 542 million bushels in 1968/69 up to 1.2 billion bushels in 1973/74. Estimated exports are less than 50 percent of production, below the needed 60-percent level.

No. 1 wheat trader. As the second largest wheat producer, the U.S. grows about one-eighth of the world crop. The Soviet Union is the biggest, accounting for about a fourth of the world crop in recent years. The U.S. exports the most, however, producing 40-50 percent of the quantity entering world trade (excluding trade among the countries of the European community).

COMMODITY PROFILE: WHEAT

Production	A record 2.1 billion bushels of U.S. wheat was produced in 1976/77, valued at about $6 billion.
Largest producing States	Kansas, North Dakota, Montana, Oklahoma, and Washington
Exports	The U.S. is the leading world exporter, accounting for 40-50 percent of the wheat in world trade.
Acreage	American farmers planted 80 million acres in 1976/77, but may reduce plantings in 1977/78.
Trends	Barring any major setbacks to the 1977 world crop, wheat prices will remain steady to lower over the next several months.

With the U.S. farm price of wheat falling below $3 a bushel during most months of 1976/77—prices fell sharply throughout the season, from a high of more than $3.40 early in the season to a low of less than $2.40 later on—farmers cut back on winter wheat plantings by 3 percent last fall. Farmers in April also indicated that spring plantings would be 18 percent lower than in 1976.

Setting the stage. Nothing highlights the farmers' wheat price problems more than the price of bread. In 1974, wheat prices were unusually high, and bread prices followed suit. Currently, wheat prices have fallen to about half their 1974 level, but bread prices have decreased little. Wheat accounts for only about 3 cents in every loaf of bread and the farmer is receiving only a part of that.

For example, in December 1974, the average farm price per bushel of wheat was $4.65, and the retail price for white pan bread was 36.4 cents per pound. By January of this year, the wheat price had plummeted to $2.43, while the bread price dipped only slightly to 35.3 cents.

Despite the lower per-bushel wheat prices in 1976, American farmers received a greater percentage of their total cash receipts from wheat than they did 5 years ago. In 1972 and earlier years, wheat sales accounted for 3 to 4 percent of total cash receipts. From 1973 to 1975, farmers received an average of 7 to 8 percent from wheat. Last year, the share dropped to slightly less than 6 percent.

Swelling crops. Total production has been climbing, largely because of increased acreage. Acres planted jumped from 59 million in 1973, to 71 million in 1974, to 75 million in 1975, to 80 million in 1976.

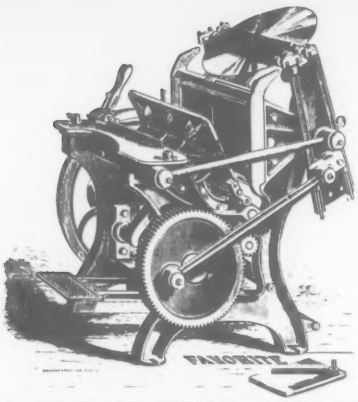
Because of the boosted production both here and abroad, U.S. wheat carryovers are up. It appears that more than 400 million bushels will be added to the Nation's stock by June 1, pushing stocks to over 1.1 billion bushels—the highest level since the early 1960's, when huge stocks plagued U.S. wheat growers.

A part of the annual U.S. wheat crop is normally used for feed. Some years this use can run as high as 15 percent of the total crop, although usually it's less than 5 percent. Wheat feeding becomes more economically feasible when wheat and feed grain prices are close, but factors such as availability also help determine whether wheat will be fed.

Spiraling costs. Compounding the problem of lower prices for wheat, farmers face lower net income from wheat production than during the past few years because of sharply increasing production costs. The national average cost, excluding land and management charges, of producing all wheat in 1974 was $1.88 per bushel. The cost increased to $2.12 in 1975; the preliminary estimate for 1976 is $2.22 and it is predicted to be from $2.01 to $2.32 in 1977.

[Based on material compiled by The Grains and Feeds Program Area, Commodity Economics Division.]

Recent Publications



Single copies of the publications listed here are available free from The Farm Index, Economic Research Service, Rm. 1664-So., U.S. Department of Agriculture, Washington, D.C. 20250. However, publications indicated by (*) may be obtained only by writing to the experiment station or university. For addresses, see July and December issues of The Farm Index.

Costs of Producing Milk in the U.S., 1975 and 1976. Prepared by the Economic Research Service for the U.S. Senate Committee on Agriculture, Nutrition, and Forestry. Single copies are available free of charge from the Committee, Room 322, Russell Senate Office Building, Washington, D.C. 20510.

This report, made in accordance with the Agriculture and Consumer Protection Act of 1973, contains detailed summaries of costs for the 24 major milk producing regions, and national average costs. Cost estimates are shown by major component for 1975 and 1976, along with estimates of the amount of return per hundredweight to the farmer.

The Sugar Industry's Structure, Pricing, and Performance: Robert Bohall and others, Commodity Economics Division. AER-363.

This study reports on the U.S. sugar industry, with special emphasis on the industry's performance during recent years of economic stress. High sugar prices in 1974, the study states, were caused by tight world sugar supplies and high world sugar prices. (The U.S. imports about half its sugar needs.) Also in the report are outlooks for the future and an analysis of the industry's structure with recommendations for changes.

Options for Improving Government Programs that Cover Crop Losses Caused by Natural Hazards. Thomas A. Miller and Alan S. Walter, Commodity Economics Division. ERS-654.

Policymakers have a wide range of alternatives from which to choose in deciding what to do about Federal crop insurance programs, especially in light of the harsh winter of 1977 when many crops were damaged or destroyed. This report examines the options and shows that generally the cost of the program increases with the level of protection provided.

Home Mortgage Credit Terms: A Comparison of Two Selected Areas in Metro and Rural Kentucky, 1975. Hughes H. Spurlock, Economic Development Division. AER-362.

Differences in lending for home mortgages in rural and metropolitan areas—from which institutions the loans are made, why loans are accepted or rejected in different areas, interest rates in the different areas, amount of downpayment required, etc.—are explored in this study. One conclusion: Home buyers in rural Kentucky face more stringent mortgage credit terms than city dwellers.

Economic Tables. Revised March 1977. Compiled by the Data Services Center. ERS-559.

Tables referring largely to agricultural inputs (land, labor, fertilizer, etc.), output, and farm assets and income are presented for reference. Many of the tables have appeared individually in other publications and are grouped in this book at the request of many users.

Beef Versus Wool Production in Australia. Lynn A. Austin, Foreign Demand and Competition Division. AER-130.

Two econometric models, calculated to quantify the effects of certain variables on the number of sheep shorn and the quantity of beef in Australia, have shown that while there is competition for pasture between beef and sheep, it is not as great as has been thought. The models, as explained in this report, also support the hypothesis that the number of sheep shorn is responsive to technology, good weather, the size of the sheep herd, and the price of wool lagged 1 year.

Evaluation of Pesticide Supplies and Demand for 1977. Paul A. Andrilenas and Theodore R. Eichers, National Economic Analysis Division. AER-366.

Farmers and others who use pesticides will have no supply problem this year, according to this report. Production of pesticides for 1977 is expected to be up by more than 10 percent over last year, with supplies more than 14 percent greater, due to large carryover from the previous year.

World Population Growth: Analysis and New Projections of the United Nations. L. Jay Atkinson, Foreign Demand and Competition Division. AER-129.

The world's population may well

increase from its present level of about 4 billion persons to an estimated 6.3 billion by the year 2000, according to this study of birth and death rate data. The author also lists many of the implications for food demand that such population growth can bring and breaks down the level of growth among nations. Developed countries are shown to have a slower growth rate than developing countries.

Enterprise Budgets for Western Commercial Sheep Businesses, 1974. C. Kerry Gee, Commodity Economics Division. ERS-659.

This third of a four-part series on U.S. western sheep production focuses on the 1974 enterprise budgets of the producers. Data show that most sheep businesses did not have sufficient sales in 1974 to cover all expenses, and about 35 percent were unable to pay cash costs. Greatest returns on invested capital were in Texas-New Mexico, while the least profitable flocks were in the wheat-corn areas of the Northern Plains States.

Land Use Policy and Agriculture: A State and Local Perspective. Melvin L. Cotner, Commodity Economics Division. ERS-650.

The United States is not running out of farmland, asserts the author. However, there is conflict between those who favor land use legislation, and those who don't. The agricultural land use activities of USDA, and the issues at the State and local levels regarding land use, are addressed.

Developments in Marketing Spreads for Agricultural Products in 1976. Denis Dunham, National Economic Analysis Division. AER-367.

The retail cost of a market basket of food in 1976 was only 1 percent higher than in 1975, and all of that increase is accounted for by the 5 percent boost in the farm-retail price spread. The jump in the spread represents the charges for processing and distribution of agricultural products. This report also explains why the 1976 year-to-year cost rise was the smallest in recent years.

Interregional Movements of Eggs and Poultry, 1955-75. George B. Rogers and Ruth J. Irvin, Commodity Economics Division. Stat. Bul.-565.

The movement of eggs and egg products, along with other poultry products, is discussed in this report. Covered are eight geographic regions during 1955-75 and the movement within and between each. Such interregional movements reflect not only attempts to balance surplus-deficit positions, but also movements of particular grades and sizes.

Economics of Butter Production and Marketing. W. Webster Jones, Commodity Economics Division. AER-365.

The economic performance of the changing butter industry is discussed, including comparisons of different production methods, a description of the marketing channels, and breakdowns of costs by function within the industry. Emphasis is placed on trends in butter production, plant numbers, and other factors.

Economics of Trucking: An Annotated Bibliography. John O. Gerald, National Economic Analysis Division, and Robert J. Byrne, Farmer Cooperative Service. ERS-658.

More than 40 USDA research reports describing the structure and performance of the trucking industry are included in this booklet. Reports cover the unregulated trucking industry, agricultural and cooperative trucking, and the impacts of truckers on railroading and on those trucks for hire regulated by the Federal Government.

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Economic Trends

[1] Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. [2] Average annual quantities of farm food products purchased by urban wage earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. [3] Annual and quarterly data are on 50-State basis. [4] Annual rates seasonally adjusted fourth quarter. [5] Seasonally adjusted. [6] As of March 1, 1967. [7] As of March 1, 1975. [8] As of February 1, 1976. [9] Beginning January 1972 data not strictly comparable with prior data because of adjustment to 1970 Census data.

Source: U.S. Dept. of Agriculture (Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale and Consumer Price Index).

Item	Unit or Base Period	1967	1976 Year	1976 Feb.	1976 Dec.	1977 Jan.	1977 Feb.
Prices:							
Prices received by farmers	1967=100	—	186	187	179	183	187
Crops	1967=100	—	198	193	192	198	202
Livestock and products	1967=100	—	177	183	168	170	174
Prices paid, interest, taxes and wage rates	1967=100	—	192	191	193	198	200
Prices paid (living and production)	1967=100	—	188	186	189	192	194
Production items	1967=100	—	193	192	193	196	199
Ratio [1]	1967=100	—	97	98	93	92	94
Wholesale prices, all commodities	1967=100	—	182.9	179.3	187.1	188.0	190.0
Industrial commodities	1967=100	—	182.3	178.0	187.4	188.4	189.9
Farm products	1967=100	—	191.1	191.0	191.6	193.5	199.0
Processed foods and feeds	1967=100	—	178.0	176.4	179.0	179.3	181.9
Consumer price index, all items	1967=100	—	170.5	167.1	174.3	175.3	177.1
Food	1967=100	—	180.8	180.0	181.7	183.4	187.7
Farm Food Market Basket: [2]							
Retail cost	1967=100	—	175.4	176.9	173.0	174.3	178.6
Farm value	1967=100	—	178.8	183.4	171.1	172.6	181.1
Farm-retail spread	1967=100	—	173.2	172.8	174.2	175.4	177.0
Farmers' share of retail cost	Percent	—	40	40	38	38	39
Farm Income: [3]							
Volume of farm marketings	1967=100	—	121	100	133	130	96
Cash receipts from farm marketings	Million dollars	42,817	94,793	6,605	8,503	8,747	6,400
Crops	Million dollars	18,434	47,802	2,941	4,808	5,102	2,900
Livestock and products	Million dollars	24,383	46,991	3,664	3,695	3,645	3,500
Realized gross income [4]	Billion dollars	49.9	104.2	—	100.9	—	—
Farm production expenses [4]	Billion dollars	38.2	80.9	—	80.6	—	—
Realized net income [4]	Billion dollars	11.7	23.3	—	20.3	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	6,380	—	1,715	2,081	1,907	2,046
Agricultural imports	Million dollars	4,452	—	768	1,096	1,139	1,127
Land Values:							
Average value per acre	Dollars	168[6]	390[8]	—	—	—	456
Total value of farm real estate	Billion dollars	182[6]	396[8]	—	—	—	460
Gross National Product: [4]	Billion dollars	796.3	1,691.6	—	1,745.1	—	—
Consumption	Billion dollars	490.4	1,079.7	—	1,122.0	—	—
Investment	Billion dollars	120.8	239.6	—	242.8	—	—
Government expenditures	Billion dollars	180.2	365.6	—	376.2	—	—
Net exports	Billion dollars	4.9	6.6	—	4.2	—	—
Income and Spending: [5]							
Personal income, annual rate	Billion dollars	626.6	1,375.3	1,331.4	1,439.5	1,440.9	1,458.0
Total retail sales, monthly rate	Million dollars	26,151	54,324	52,601	57,898	56,570	57,569
Retail sales of food group, monthly rate	Million dollars	5,759	11,749	11,424	12,188	11,807	11,979
Employment and Wages: [5]							
Total civilian employment	Millions	74.4	87.5	86.5	88.4	88.6	89.0
Agricultural	Millions	3.8	3.3	3.2	3.3	3.1	3.1
Rate of unemployment	Percent	3.8	7.7	7.6	7.8	7.3	7.5
Workweek in manufacturing	Hours	40.6	40.1	40.3	40.0	39.6	40.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	5.19	5.04	5.42	5.45	5.42
Industrial Production: [5]	1967=100	—	129.8	127.3	133.0	131.9	133.2
Manufacturers' Shipments and Inventories: [5]							
Total shipments, monthly rate	Million dollars	46,487	98,552	95,551	105,277	103,927	—
Total inventories, book value end of month	Million dollars	84,527	166,856	156,458	166,856	167,709	—
Total new orders, monthly rate	Million dollars	47,062	98,901	95,044	107,634	105,346	—

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